ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Anion Exchanger-3 (AE-3) Antibodies

Cat. # AE31-P	Rat AE-3 Control/blocking Peptide # 1	**SIZE**: 100 ug
Cat. # AE31-S	Rabbit Anti-rat AE-3 antiserum # 1	**SIZE**: 100 ul
Cat. # AE31-A	Rabbit Anti-rat AE-3 Ig G # 1 (aff pure)	**SIZE**: 100 ug

Anion exchangers (AE) are membranes proteins involved in the regulation of intracellular pH, cell volume regulation as well as in transepithelial acid/base transport. AE proteins are sodium–independent exchangers that mediates one-for-one exchange of extracellular Cl- for intracellular HCO3- ions resulting in intracellular acidification. AE proteins are encoded by a family of at least three related genes (**AE1-4**). Numerous alternatively spliced isoforms of each AE gene are expressed in various tissues. AE proteins are exemplified by a large N-terminal cytoplasmic domain (~40-75 kDa) that provides binding sites for cytoskeleton protein, glycolytic enzymes and hemoglobin. The N-terminal cytoplasmic domains of AE2 are AE3 are more closely related than AE1. In fact, AE1 N-terminus is 300 aa shorter than both the AE2 and AE3. The C-terminal TM domain (~55 kDa) is highly conserved (~70% identity) among various AE, spans the lipid bilayer 12-14 times, and is able to mediate anion exchange by itself.

Human **AE3** gene (chromosome 2q36) encodes a protein of 1233 aa (mouse/rat 1227 aa). AE3 is primarily expressed in excitable tissue such cardiac muscle, retina, and brain.

FUNCTION: Plasma membrane anion exchange protein.
SUBCELLULAR LOCATION: Multi-pass membrane protein.
TISSUE SPECIFICITY: Neuronal.
SIMILARITY: Belongs to the anion exchanger (TC 2.A.31) family
Protein name Anion exchange protein 3
Synonyms Neuronal band 3-like protein
Solute carrier family 4 member 3, Ae3, B3rp3
Gene name Name: Slc4a3

Source of Antigen and Antibodies

Antigen	20-aa peptide of Rat AE3/B3A3 (protein accession #P23348 refs 1) **Designated (AE31-P or Control peptide)** conjugated to KLH; epitope location ~ N-terminal, Cytoplasmic
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat # AE31-S) Aff pure IgG (**cat #AE31-A**) purified over antigen-agarose column
2-ab Format	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure IgG using Chemiluminescence technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry: not tested. We recommend the use of affinity purified antibody at 2-10 ug/ml.

Specificity & Cross-reactivity

The 20 AA rat AE31-P control peptide is 100% conserved in mouse, 95% in human, and 90% in rabbit AE-3. No significant sequence homology is detected with other AE or other proteins. Actual cross-reactivity of antibodies in various species has not been studied. The AE31-P, Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: www.4adi.com\data\abblock.html).

General References: Kudrycki KE et al (1990) J Biol. Chem. 265, 462; Kopito RR et al (1989) Cell 59, 927; Morgan CW et al (1993) J Cell Sci. 106, 1275; Yannoukakos D et al (1994) Cir. Res. 75, 603; Kopito RR et al (1990) Intl. Rev. Cytol. 123, 177

*This product is for In vitro research use only.

Related material available from ADI

Antibodies AE1-4 and CLC1-7; KCCL1-3; AQP-9 and RUT; OCT

AE31-S-A-P 70828A

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